Table 9.1: Ultrasound Scanner Survey Requirements

	Test	Frequency	Measurements	Tolerance
1.	**Geometric Accuracy**	M	Measure the predetermined spacing of reflecting rods in the ultrasound phantom.	Vertical Measurements ± 1% Horiz. Measurements ± 3%
2.	**Transducer Sensitivity**	M	Check for smooth variation as a function of depth in the attenuated pattern of reflections.	Sat/Unsat.
3.	**Dead Zone/Max Depth**	M	Measure the dead zone and maximum depth visualized.	Neither reading should vary by more than 10% from the previous survey reading.
4.	**General Maintenance**	M	Check for loose connections, frayed cables, and clean air filters. Verify that the unit is positioned to allow proper ventilation.	Sat/Unsat
5.	**Image Output Check**	M	Print and evaluate a SMPTE image from the laser imager. Speak with techs about artifact problems.	Sat/Unsat
6.	**High Contrast Spatial Resolution**	Q	Determine which of the closely spaced reflectors in the phantom can be resolved in the axial and lateral directions.	Both readings should agree with that from the previous survey or be the next adjacent reflector available.
7.	**Focal Depth Determination**	Q	Verify that the focal depth setting agrees with the depth of the narrowest observed reflector.	Sat/Unsat.
8.	**Low Contrast Spatial Resolution**	Q	Record the smallest low contrast cyst visible in the phantom for at least two depths	Both readings should agree with that from the previous survey or be the next adjacent cyst available.

Abbreviations: M: monthly, Q: quarterly, SMPTE: Society of Motion Picture and Television Engineers.